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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Michael Richard Richardson

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EXAMINER

PEREZ, JAMES M

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/522,756	Applicant(s) RICHARDSON, MICHAEL RICHARD	
	Examiner JAMES M. PEREZ	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

This Office Action is responsive to the amendments submitted on 10/14/2008.

Currently, claims 1 and 3-26 are pending.

Response to Arguments

1. Applicant's arguments with respect to claims 1 and 3-26 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1 and 3-26 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. For example the processes of claim 1 are not performed or created by a physical structure or apparatus.

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-6, 12, and 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang (USPN 6,369,758) in view of ETSI EN 300 744 V1.4.1 (2001-01) (herein referenced as 'ETSI') in further view of Lipsanen et al. (US 2004/0242203).

With regards to claim 1, Zhang teaches a method of determining the amount of signal power and interference power in a received signal, the received signal having a wanted signal and a plurality of interfering signals, the method comprising the steps of:

a) selecting a plurality (col. 10, lines 34-37) of first known structures (fig. 1: element TRS II: col. 4, lines 30-41) in the wanted signal (signal sent by a transmitter which is intended for the disclosed receiving unit);

b) processing the received signal in accordance with said plurality of first known structures to derive a set of amplitude values (col. 10, lines 29-37: correlation produces amplitude values, and a high value (above a threshold) has a high amplitude) corresponding to the said first known structures (correlation of the pseudo random training symbols); and

c) using the set of amplitude values to determine the power level for at least a portion of the received signal (Zhang: disclosed claim 4: The method wherein the

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weighting factor for each branch is determined from an average power and power variance determined from the pseudo random training symbol. Note that the TRS had a high correlation amplitude (value) that's why it was recognized as the TRS, and also TRS is within the received signal).

Zhang does not explicitly teach two Limitations: Limitation 1) the wanted signal being encoded such that there is a channel structure including a data channel and a broadcast channel, step a) including said plurality of first known structure being identified using a further known structure within the broadcast channel to provide a signal having known periods with defined properties; and Limitation 2) the method being implemented in a cellular telephone system.

Limitation 1)

ETSI teaches the wanted signal being encoded such that there is a channel structure including a data channel (page 24: section 4.4: data) and a broadcast channel (page 44: section 4.4: pilot and TPS carriers), and a plurality of first known structure being identified using a further known structure within the broadcast channel to provide a signal having known periods with defined properties (page 24: section 4.4: pilot and TPS carriers; page 29: section 4.6; and page 30: Table 9).

One of ordinary skill in the art at the time of the invention would clearly understand that synchronization bits would be used in order to determine the location of other structures within the preamble (page 30: Table 9), wherein the preamble is obviously within the wanted signal.

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Therefore in view of KSR, it would be obvious to one of ordinary skill in the art at the time of the invention to modify the Zhang with the OFDM preamble standard of ETSI in order to yield predictable results and benefits such as location of other wanted structures within the wanted signal based on the location of the synchronization bits.

Limitation 2)

Lipsanen teaches DVB-T receiver in a cellular telephone system (fig. 2: paragraph 45).

Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to modify the known OFDM communication system of Zhang in view of ESTI with the known teachings of Lipsanen in order to yield the predictable results and benefits such as implementing DVB-T capable cellular telephone and/or system (paragraphs 2-3 and 7).

With regards to claim 3, ETSI EN 300 744 V1.4.1 (2001-01) teaches a method wherein step a) includes identifying locations of a further structure (identifying the location of the beginning of the preamble using the initialization bit) within the wanted signal and using the identified locations to derive the locations of said plurality of first known structures (page 30: Table 9: the synchronization bits (S17-S22) have a fixed location relationship with the initialization bit (S0)).

With regards to claim 4, ETSI EN 300 744 V1.4.1 (2001-01) teaches a method according to claim 2, where in said plurality of first known structures comprises

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Frequency Correction Bursts (page 30: Table 9: the synchronization bits (S17-S22) are used to synchronize the wanted received signal with the receiver, therefore it is a burst of data which corrects (realigns) the frequency of the received signal in the receiver).

With regards to claim 5, ETSI EN 300 744 V1.4.1 (2001-01) further teaches a method according to claim 3, wherein said further known structure comprises sync bursts (the synchronization bits are within the preamble therefore it is a sync burst, note that burst is taken to mean a short data length).

With regards to claim 6, Zhang further teaches a method according to claim 2, wherein the step of identifying said plurality of first known structures includes using pointers selected by said further known structure (col. 4, lines 19-28: a timing pointer is used to point to the beginning of each symbol).

With regards to claim 12, Zhang further teaches a method according to claim 3, wherein the step of identifying said plurality of first known structures includes using pointers selected by said further known structure (col. 4, lines 19-28: a timing pointer is used to point to the beginning of each symbol).

With regards to claim 18, Zhang further teaches a method according to claim 1, wherein step b) comprises correlating (col. 10, lines 29-37: correlation produces amplitude values, and a high value (above a threshold) has a high amplitude) the

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received signal with said selected plurality of first known structures (correlation of the pseudo random training symbols) to derive said amplitude values.

With regards to claims 19 and 22, Zhang further teaches a method according to claim 8, wherein step c) comprises determining mean (col. 17, lines 9-25: mean signal power) and variance (Zhang: disclosed claim 4) values for said amplitude values (the disclosed power and variance are inherently calculated based on the received training symbols, and the training symbols inherently have a non-zero amplitude otherwise the training symbol would not be detected).

With regards to claims 20, 23, and 25, Zhang further teaches a method according to claim 9, wherein step c) further comprises using calibration factors to produce an absolute power value for the wanted signal (Zhang: col. 7, lines 18-70: equation 11: signal power).

With regards to claims 21, 24 and 26, Zhang further teaches a method according to claim 10, wherein step c) further comprises using said calibration factors to produce an absolute power value for the interfering signals (col. 5, lines 25-70: equation 4).

6. Claims 7-11 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang USPN 6369758 in view of ETSI EN 300 744 V1.4.1 (2001-01)

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with Lipsanen et al. (US 2004/0242203) as applied to claims 6 and 12 above, further in view of Defreese (USPN 6493876).

With regards to claim 7, Zhang in view of ETSI EN 300 744 V1.4.1 (2001-01) in further view of Lipsanen teach limitations of claim 6. Zhang in view of ETSI EN 300 744 V1.4.1 (2001-01) in further view of Lipsanen remains silent with respect to disclosing a method wherein said pointers are stored in a look-up table, and step a) includes using said pointers to select said plurality of first known structures in said received signal.

Defreese teaches a method wherein said pointers are stored in a look-up table (Defreese: disclosed claims 16 and 17), and step a) includes using said pointers to select said plurality of first known structures in said received signal (Defreese: disclosed claims 16 and 17: mapping television channel to a television service identifier).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zhang in view of ETSI EN 300 744 V1.4.1 (2001-01) in further view of Lipsanen with the teachings disclosed in Defreese in order to increase profits by providing an improved full service television system capable of sustaining two-way communications between a cable service provider and a cable service subscriber, deliver services such as World Wide Web browsing, E-mail, and deliver advanced television services such as a comprehensive channel navigator.

With regards to claims 8 and 14, Zhang further teaches a method according to claim 7, wherein step b) comprises correlating (col. 10, lines 29-37: correlation produces

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amplitude values, and a high value (above a threshold) has a high amplitude) the received signal with said selected plurality of first known structures (correlation of the pseudo random training symbols) to derive said amplitude values.

With regards to claims 9 and 15, Zhang further teaches a method according to claim 8, wherein step c) comprises determining mean (col. 17, lines 9-25: mean signal power) and variance (Zhang: disclosed claim 4) values for said amplitude values (the disclosed power and variance are inherently calculated based on the received training symbols, and the training symbols inherently have a non-zero amplitude otherwise the training symbol would not be detected).

With regards to claims 10 and 16, Zhang further teaches a method according to claim 9, wherein step c) further comprises using calibration factors to produce an absolute power value for the wanted signal (Zhang: col. 7, lines 18-70: equation 11: signal power).

With regards to claims 11 and 17, Zhang further teaches a method according to claim 10, wherein step c) further comprises using said calibration factors to produce an absolute power value for the interfering signals (col. 5, lines 25-70: equation 4).

With regards to claim 13, Zhang in view of ETSI EN 300 744 V1.4.1 (2001-01) in further view of Lipsanen teach a method according to claim 12. Zhang in view of ETSI

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EN 300 744 V1.4.1 (2001-01) in further view of Lipsanen remains silent with respect to disclosing a method wherein said pointers are stored in a look-up table, and step a) includes using said pointers to select said plurality of first known structures in said received signal.

Defreese teaches a method wherein said pointers are stored in a look-up table (Defreese: disclosed claims 16 and 17), and step a) includes using said pointers to select said plurality of first known structures in said received signal (Defreese: disclosed claims 16 and 17: mapping television channel to a television service identifier).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zhang in view of ETSI EN 300 744 V1.4.1 (2001-01) with the teachings disclosed in Defreese in order to increase profits by providing an improved full service television system capable of sustaining two-way communications between a cable service provider and a cable service subscriber, deliver services such as World Wide Web browsing, E-mail, and deliver advanced television services such as a comprehensive channel navigator.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chang et al. (US 2002/0041576) discloses storing said pointers in a look-up table (paragraph 23).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES M. PEREZ whose telephone number is

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(571)270-3231. The examiner can normally be reached on Monday through Friday:
9am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James M Perez/

Examiner, Art Unit 2611

1/5/2008

/Shuwang Liu/

Supervisory Patent Examiner, Art Unit 2611